Safety Information Bulletin

Airworthiness

SIB No.: 2011-28R1

Issued: 30 July 2024

Subject: **Maintenance of Emergency Evacuation Systems**

Revision:
This SIB revises EASA SIB 2011-28 dated 08 December 2011.

Ref. Publications:
EASA Airworthiness Directives:
- AD 2011-0015 dated 31 January 2011,
- AD 2014-0025R1 dated 26 May 2014,
- AD 2016-0043 dated 04 March 2016,
- AD 2018-0129 dated 15 June 2018,
- AD 2022-0176 dated 24 August 2022, and
- AD 2024-0057 dated 28 February 2024.

Service Publications:
- AIRBUS Operator Information OIT/FOT 999.0023/05/SH dated 24 March 2005,
- AIRBUS Operator Information OIT 999.0010/10 dated 27 January 2010,
- AIRBUS Operator Information OIT 999.0066/15 Revision 02 dated 27 September 2021,
- AIRBUS In-Service Information (ISI) 25.62.00011 dated 27 June 2024,
- AIRBUS In-Service Information (ISI) 00.00.00217 dated 03 April 2023, and
- Air Cruisers Service Information Letter (SIL) 25-102 rev.24 dated 21 October 2011.

Applicability: Airbus A318, A319, A320 and A321 aeroplanes.

Description:
The proper operation of emergency evacuation systems, e.g. slides, slides/rafts, door mechanisms, arm/disarm mechanisms, door opening assist mechanisms, slide activation mechanisms, is essential for the success of evacuations from passenger-carrying aircraft. Many efforts are dedicated to monitor and improve the reliability of these systems. As part of these efforts, continuous analysis and survey of in-service events, whether operational or part of a maintenance/test activity, have allowed EASA to identify problems and, where necessary, mandate corrective actions – e.g. the 6 ADs referenced above.

Nevertheless, malfunctions of evacuations systems may still occur unless all parties (systems designers, aircraft manufacturers, systems and aircraft maintainers, aircraft operators and aviation authorities) work in conjunction to collectively tackle the various issues that occur with these systems.

Slides and slides/rafts are subject to a 36 months periodical task during which system performance and durability are checked. Depending on the maintenance program, a sampling program is used. The number of units actually tested on the aeroplane represents 3% of the total population. Reporting of malfunction of the units deployed is necessary but is often insufficient to allow satisfying judgement of the root cause of the failure.

In-service evacuation events provide very useful data, although the testing performed during maintenance or training is also a valuable source of information. Whilst these do not fully represent an emergency situation, the behaviour of the systems and any malfunctions observed can help to identify design issues or deficiencies in the maintenance practices that can compromise the safe operations of the evacuations systems and consequently contribute to failures during real emergencies.

Because the on-aeroplane testing of emergency evacuation systems is made in a controlled environment – sometimes performed jointly with cabin attendants' touch-drills[1] – it is essential to collect information, to document and to identify any malfunction or failure. Accurate reporting of the testing performed is fundamental for system designers and aircraft manufacturers to identify potential improvements in system designs and maintenance procedures. It is commonly agreed that videorecording is the most appropriate and most effective tool to document such testing.

To achieve and maintain a high-level of serviceability of emergency evacuation systems necessitate that each failure, malfunction, or defect of any component of these systems is reported as foreseen in the applicable regulations, e.g. Commission Regulation (EU) 1321/2014, Part M.A.202 for organisations and personnel involved in continuing airworthiness of aircraft, and Part 145.A.60 for maintenance organisations.

Lack of data from incidents or poor data quality may lead to the conclusion that the current maintenance process is inadequate in providing the information necessary, resulting in a more conservative approach. Just as a reminder, the Regulation (EU) 376/2014 Article 4 requires mandatory reporting of occurrences related to systems malfunctions.

With that in mind, all slide and slide raft deployments due to emergency evacuation, inadvertent (accidental) deployments or scheduled test/demonstration deployments must be reported to the organisations as defined in these regulations and/or directives.

See also Airbus doc. ISI 25.62.00011, ISI 00.00.00217 and OIT 999.0066/15 Revision 02.

Available data concerning A320 series aeroplanes slides and slides/rafts also stresses that, due to numerous folding/packing and/or improper installation, defects have been found. Many of these problems could have been avoided if the folding/packing had been accomplished in accordance with the manufacturer's current technical data and their installation onto the aeroplane made in accordance with the current AMM (see chapter 25-62 for A320s). These publications had already been updated to reflect lessons learnt from reported in-service history and contained amended procedures. It is therefore recommended that maintenance on emergency evacuation systems

[1] See Appendices 1 to OPS 1.1010, 1.1015 and 1.1020

must be performed in accordance with the current (latest issue) CMMs and AMMs, and that data retrieved during these maintenance actions must be recorded and presented to the Type Certificate holder.

This SIB is revised to refer to the latest Airbus documentation.

At this time, the safety concern described in this SIB is not considered to be an unsafe condition that would warrant Airworthiness Directive (AD) action under Regulation (EU) 748/2012, Part 21.A.3B.

Recommendation(s):

As emergency evacuation systems are complex in design and are safety-critical items, air carriers and their maintenance organisations should ensure that each person performing maintenance actions on evacuation systems is properly trained, qualified, and understands the implications of the current maintenance instructions and that the latest versions of these instructions are used. Operators should as well check and ensure that all maintenance actions on evacuation systems are performed by authorised and capable stations. Stations in the Safran Aerosystems network that are authorised by Air Cruisers are listed in the Air Cruisers SIL 25-102 Rev 24, or later revisions.

Contact(s):

For further information contact the EASA Safety Information Section, Certification Directorate.
E-mail: ADs@easa.europa.eu.

For copies of the referenced service publications:
AIRBUS – Airworthiness Office – EAS, Fax +33 5 61 93 44 51 E-mail:
account.airworth-eas@airbus.com.

Air Cruisers, E-mail: Tech-support.sao@safrangroup.com.